

“The proximal portion would have a relatively smooth surface as compared to the surface of the distal portion... The proximal portion/end is a round ball that is smooth. The distal portion of the coil is spirally wound, thus a texture is imparted. If you were to run your finger over the ball and then the coil – you would feel the texture imparted by the helix configuration... If the wire were not wound helically it would be smooth and would not promote as much clotting.”

There is a problem in this analysis as to the definition of what a “textured surface” might be. The rejected claims state “a relatively smooth surface” and “a relatively textured surface”. It is the surface that is smooth and textured, not a large scale area of several, spaced surfaces such as the coils of a helix, or the shape of a ball. While the surface of a ball is smooth in Engelson, so is the surface of the helical coil 13.

The examiner has stated “if the wire were not wound helically, it would be smooth...”. Accordingly, there is no dispute that Engelson discloses a helical coil 13 in which the wire that makes up the coil has a smooth surface, and a ball 16 having also a smooth surface.

The problem of analysis used by the examiner is that the spiral nature of the helical coil is what imparts the “texture” as the examiner defines it. In other words “If you would run your finger over...the coil - you would feel the texture imparted by the helix configuration.” A bumpy “texture” feeling is felt, the examiner points out, as one runs one’s finger longitudinally from loop to loop of the helical coil 13. The Examiner is saying that it is the gross structure of helical coil 13, and not its surface, that forms the “texture” of the coil.

However, in analyzing the ball 16, this mode of analysis is not used. Instead, reference is to the surface of the ball. Indeed the surface of ball 16 is smooth, but if “texture” comes from the gross structure of discontinuities of coil loops and spaces between them, then, logically, the same standard must be applied to ball 16. Ball 16 is

round, not flat. Therefore, as one runs the finger across it, there is a bump, with spaces on each side. When the ball sits in the keyway, the irregularities of the keyway walls are felt, spaced from the ball 16. That is as much a “texture” as are the plural loops of coil 13, separated by spaces felt by running one’s finger along them. If one runs the same finger along ball 16 and its keyway, one would feel irregularities and a central bump, which, by the examiner’s standard, should be viewed as a “texture”, as much as the “texture” is found in coil 13 by the examiner’s standard.

In fact, as the examiner has acknowledged, the actual surfaces of coil 13 and ball 16 are smooth.

To the contrary, as claimed herein, an embolic coil is provided where there is a difference in the surface of the proximal portion thereof, compared with the surface of the distal portion. The proximal portion is relatively smooth in its surface, and the distal portion has a relatively textured surface.

Furthermore, as described in the Remarks of the amendment of January 26, 2004, page 6, the use of an embolic coil having a relatively smooth surface at its proximal portion (3rd paragraph) “. . . provides a controlled release when used with an introducer having a detachment mechanism”.

This is shown in Figs. 7-10, showing the release of the embolic coil. The smooth surface of the proximal portion of the embolic coil provides more reliable, uniform release conditions, better than one would find in the release conditions if the proximal portion of the embolic coil had a textured surface, which might cause sticking and hang up of release.

In view of the above, it is submitted that the claims of this application are clearly patentable over Engelson, because they clearly call for separate, relatively smooth and relatively textured surfaces.

The examiner has rejected claims 4 and 14 as obvious over Engelson. These claims are dependent upon the independent claims previously discussed, and as such, they share in their patentable distinctions.

The examiner has rejected claims 1, 11 and 20 as anticipated by McGurk et al. U.S. Patent No. 5,690,671. McGurk et al. discloses embolic elements, and methods and apparatus for their delivery.

As before, it is submitted that there is no teaching in McGurk et al. of embolic coils in which (claim 1) "...the proximal portion that is held by said detachment portion having a relatively smooth surface as compared to the surface of the distal portion and the distal portion having a relatively textured surface as compared to the smooth surface of the proximal portion." Claims 11 and 20 have similar language.

Thus, the distinction of this invention over McGurk et al. is similar to that previously discussed.

McGurk et al. does teach in column 5 the general possibility of surface texturing of the embolic element (lines 6-14). However, that is no teaching of the claim language quoted above from claim 1 and essentially also found in claims 11 and 20, calling for separate, relatively smooth and relatively textured surfaces.

The examiner relies for a disclosure of the proximal, "relatively smooth surface" on the disclosure of Engelson which has been discussed, which patent is incorporated by reference into McGurk et al. However, for the reasons discussed above, there is no


teaching in Engelson, or McGurk et al., of an embolic coil having both a distal, relatively textured surface, and a proximal, relatively smooth surface, exhibiting the advantages of improved platelet adhesion, coupled with more reliable releasability from the catheter that carries it when the embolic coil has been properly positioned.

The examiner has also rejected numerous of the dependent claims as unpatentable over McGurk et al. These dependent claims share in the patentable distinction of the claims from which they depend, as well as exhibiting distinctions in their own right.

In view of the above, allowance of the claims is respectfully requested.

Respectfully submitted,

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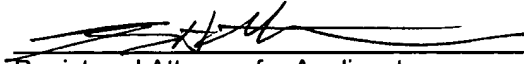


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